Panel Discussion I: EUMETSAT

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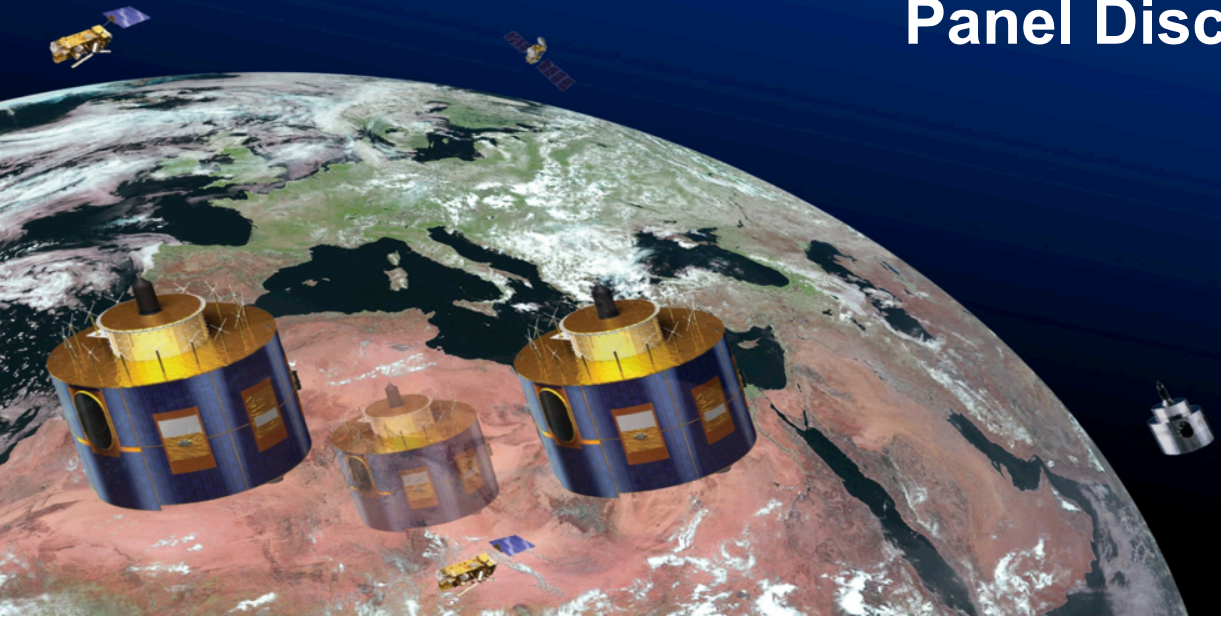
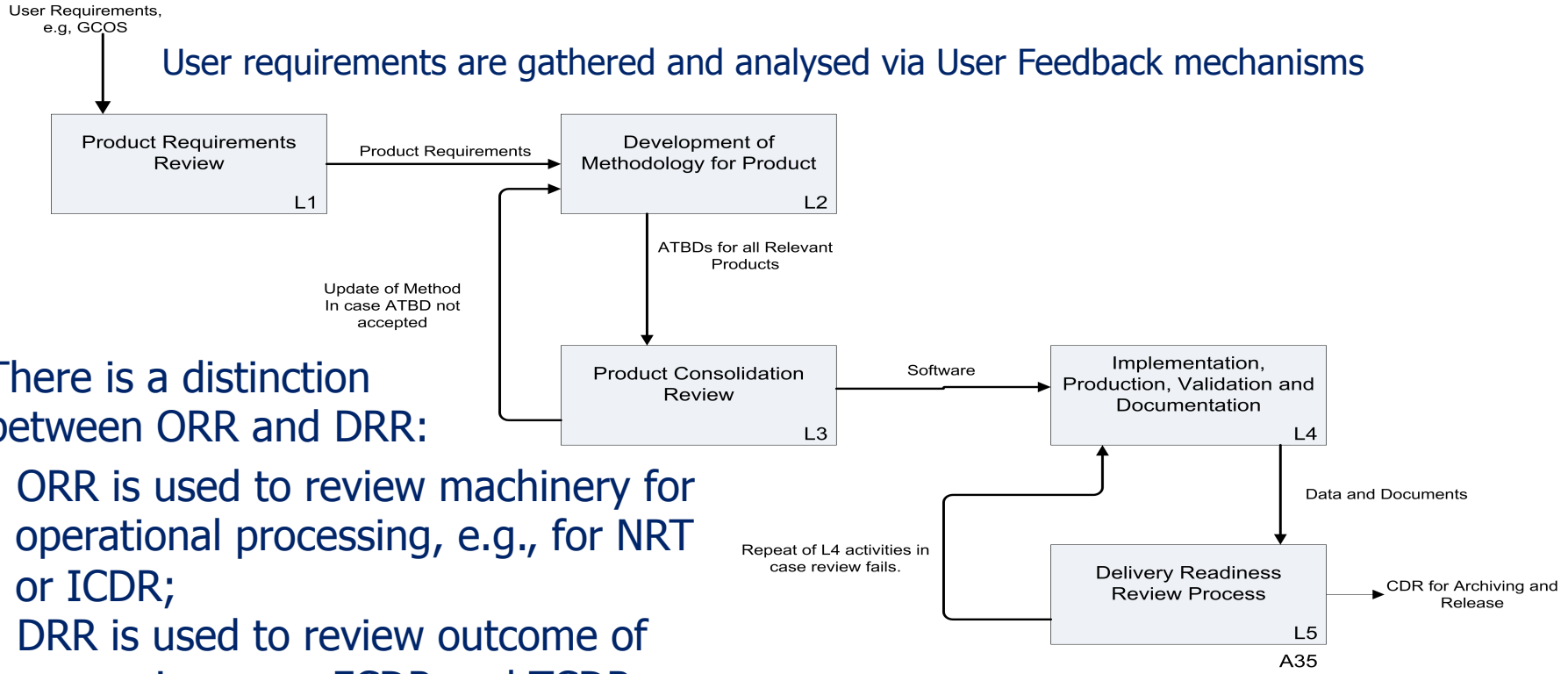


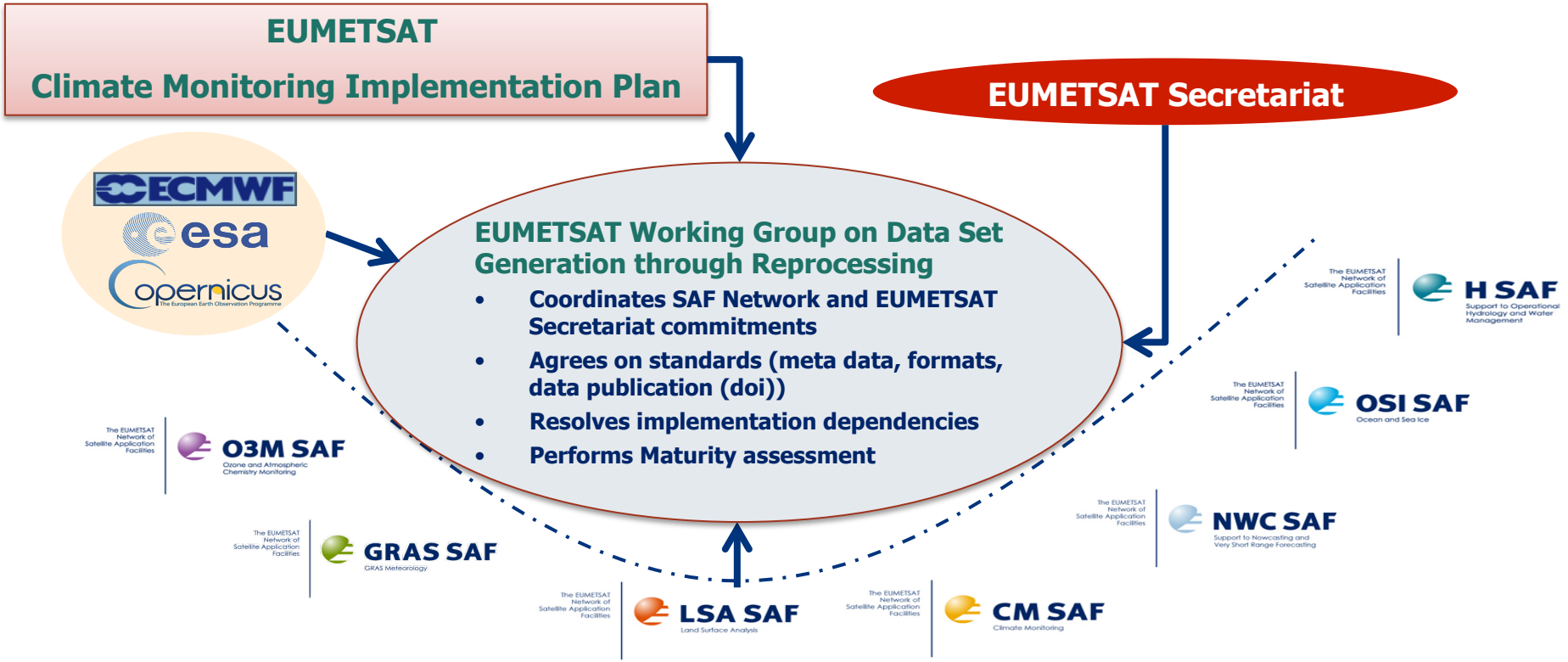
EUMETSAT Life Cycle of CDR Generation



There is a distinction between ORR and DRR:

- ORR is used to review machinery for operational processing, e.g., for NRT or ICDR;
- DRR is used to review outcome of processing, e.g., FCDR and TCDR.

Coordination for CDR Generation



Sub-Matrix - Uncertainty

SOFTWARE READINESS	METADATA	USER DOCUMENTATION	**UNCERTAINTY CHARATERISATION**	PUBLIC ACCESS, FEEDBACK, UPDATE	USAGE

	Standards	Validation	Uncertainty quantification	Automated Quality Monitoring
1	None	None	None	None
2	Standard uncertainty nomenclature is identified or defined	Validation using external reference data done for limited locations and times	Limited information on uncertainty arising from systematic and random effects in the measurement	None
3	Score 2 + Standard uncertainty nomenclature is applied	Validation using external reference data done for global and temporal representative locations and times	Comprehensive information on uncertainty arising from systematic and random effects in the measurement	Methods for automated quality monitoring defined
4	Score 3 + Procedures to establish SI traceability are defined	Score 3 + (Inter)comparison against corresponding CDRs (other methods, models, etc)	Score 3 + quantitative estimates of uncertainty provided within the product characterising more or less uncertain data points	Score 3 + automated monitoring partially implemented
5	Score 4 + SI traceability partly established	Score 4 + data provider participated in one inter-national data assessment	Score 4 + temporal and spatial error covariance quantified	Score 3 + monitoring fully implemented (all production levels)
6	Score 5 + SI traceability established	Score 4 + data provider participated in multiple inter-national data assessment and incorporating feedbacks into the product development cycle	Score 5 + comprehensive validation of the quantitative uncertainty estimates and error covariance	Score 5 + automated monitoring in place with results fed back to other accessible information, e.g. meta data or documentation

Name	SSU Level 1b radiances (FCDR)
Origin	NCDC/CLASS; Cheng-Zhi Zou cheng-zhi.zou@noaa.gov
Spatial Characteristics	Global
Temporal Characteristics	Dec 1978 – Jan 2006; Instantaneous

Software Readiness	Metadata	User Documentation	Uncertainty Characterisation	Public access, feedback, and update	Usage
Coding Standards	Standards	Formal description of scientific methodology	Standards	Public Access/Archive	Research
Software Documentation	Collection level	Formal validation report	Validation	Version	Decision support system
Numerical Reproducibility and portability	File level	Formal product user guide	Uncertainty quantification	User feedback mechanism	
Security		Formal description of operations concept	Automated quality monitoring	Updates to record	

Legend					
1	2	3	4	5	6

Name	SSM/I FCDR
Origin	CM SAF; contact.cmsaf@dwd.de
Spatial Characteristics	Pixel resolutions varying with channels.
Temporal Characteristics	Jul 1987 – Dec 2008

Software Readiness	Metadata	User Documentation	Uncertainty Characterisation	Public access, feedback, and update	Usage
Coding Standards	Standards	Formal description of scientific methodology	Standards	Public Access/Archive	Research
Software Documentation	Collection level	Formal validation report	Validation	Version	Decision support system
Numerical Reproducibility and portability	File level	Formal product user guide	Uncertainty quantification	User feedback mechanism	
Security		Formal description of operations concept	Automated quality monitoring	Updates to record	

Legend					
1	2	3	4	5	6

Copernicus CORE-CLIMAX Assessment

- Evaluation and QC needs to consider both scientific and process quality;
- FP7 CORE-CLIMAX assessment provides consistent descriptions for >40 Climate Data Records and assessment of completeness w.r.t. best practices;
- System Maturity estimates always need some interpretation, they must not be used for a beauty contest by adding up or averaging scores or doing ranking;
- Process maturity indicators can be added to data record inventories;
- It was suggested that Copernicus C3S considers the use of the developed assessment system in the context of its Evaluation and Quality Control.

Product Formatting and Distribution

- EUMETSAT use CF convention for meta data as much as possible;
- Uses NetCDF4 format;
- Archive format ≠ distribution format;
- Other formats served via on the fly converters;
- Obs4Mips needs different products – its not only a format issue;
- Realisation takes time, currently reformat complete satellite missions during reprocessing.